

REMARKS

It is an objective of the present invention to easily increase a load resisting force of a structure such as a bridge or building when excessive sagging or cracks are generated in the girder used in the structure due to long term use or when there is a need to increase the load-resisting force of the structure without damaging the structure after the completion of the construction thereof. According to the present invention, the girder includes a plurality of first steel wires and a plurality of second steel wires. The first steel wires are pre-tensioned during the construction of the girder. The second steel wires remain in an accessible state such that the second steel wires can be tensioned after the completion of the construction of the girder so that the girder can be reinforced by tensioning the second steel wires after the completion of the construction of the structure. For example, a constructed bridge including the girder according to the present invention were to sag due to long term use (i.e., after the completion of the construction), the second steel wires may be tensioned so as to reinforce the bridge. In that regard, the first steel wires of the present invention are pre-stressed during the construction of the girder and the second wires are not tensioned at all or tensioned by only a very small tension force during the construction of the structure, so that the tension force of the second steel wires can be increased after the completion of the construction of the structure.

Crowley U.S. Patent 2,859,504, relied upon during prosecution of the parent application, relates to a concrete girder pre-stressed in consideration of the moment distribution which will act on the girder during use of the girder. In other words, the reinforcing member (corresponding to the first steel wire of the present invention) of the girder of Crowley is tensioned after the concrete has been cast and has acquired

its structural strength and prior to the application of the external live or dead loads to the girder, as described at lines 15-23 of column 1 of the specification of Crowley. That is, all of the reinforcing members of Crowley's girder are pre-tensioned before the girder is included in a bridge or building, i.e., before, *not after*, the completion of the bridge or building. Furthermore, since the recesses exposing the reinforcing members of Crowley are filled with cement, mortar or grouting after pre-stressing the reinforcing members and before the girder is included in the bridge or building, i.e., before completion of the construction of the bridge or building, the reinforcing members are not accessible and cannot be tensioned after the completion of the construction of the bridge or building. Therefore, the girder of Crowley or a bridge or building including the girder cannot be reinforced by tensioning the reinforcing member after the completion of the construction of the bridge or building. Furthermore, the specification of Crowley neither suggests nor hints at reinforcing the bridge or building by tensioning the reinforcing member after the completion of the construction of the bridge or building.

Accordingly, it is submitted that claims 14-19 are in condition for allowance.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

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By:



Alan E. Kopecki

Registration No. 25,813

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620